

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference BET04L0011	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/FR2004/000245	International filing date (day/month/year) 03.02.2004	Priority date (day/month/year) 04.02.2003
International Patent Classification (IPC) or national classification and IPC G05B 19/414, B25J 9/16		
Applicant STAUBLI FAVERGES		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of <u>6</u> sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising: a. <input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of <u>3</u> sheets, as follows: <input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
4. This report contains indications relating to the following items: <input checked="" type="checkbox"/> Box No. I Basis of the report <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input type="checkbox"/> Box No. VII Certain defects in the international application <input type="checkbox"/> Box No. VIII Certain observations on the international application

Date of submission of the demand 24-11-2004	Date of completion of this report 25-02-2005
Name and mailing address of the IPEA/ Facsimile No.	Authorized officer Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/FR2004/000245

Box No. I

Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-9 _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☒ the claims:
- nos. 2-6, 8-12 _____ as originally filed/furnished
- nos.* _____ as amended (together with any statement) under Article 19
- nos.* 1, 7, 13 _____ received by this Authority on 24.11.2004 with the letter submitted on 22.11.2004
- nos.* _____ received by this Authority on _____
- ☒ the drawings:
- sheets 1/1 _____ as originally filed/furnished
- sheets* _____ received by this Authority on _____
- sheets* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____
4. ☒ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages _____
- ☒ the claims, nos. 1, 7 _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/FR2004/000245

Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1. Statement			
Novelty (N)	Claims	1-13	YES
	Claims		NO
Inventive step (IS)	Claims	1-13	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-13	YES
	Claims		NO
2. Citations and explanations (Rule 70.7)			
1. In the present report, reference is made to the following documents:			
D1: US 4 794 513 A (MUELLER PETER) 27 December 1988 (1988-12-27);			
D2: US 6 091 219 A (INAGAKI TAKAMITSU ET AL) 18 July 2000 (2000-07-18);			
D3: EP-A-0 881 551 (KUKA ROBOTER GMBH) 2 December 1998 (1998-12-02).			
2. Document D2, which is considered to be the closest prior art, describes (the references between parentheses apply to said document):			
<ul style="list-style-type: none">• a multi-axis robot comprising an arm and electric motors (column 3, lines 29-42; figure 1) as well as a control system including:• a controller as defined in claim 1 of the application ("robot control driver 22", figure 3; column 3, line 43 to column 4, line 3);• means for interconnecting said arm, the power			

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

module and the unit, which means at least enable power to be supplied to said motors from said module (figure 3, "45", lines between modules 32-40, 46 and 22),

wherein:

- said interconnecting means include a single structural bus ("serial communication path 45", figure 3) for the connection of a control unit ("rotary encoder I/F 46", column 3, line 58) associated with said computing and processing unit ("CPU 32"); and
- there is at least one digital interface ("communication circuit 49", column 5, lines 22-30) with at least one position sensor.

The subject matter of claim 1 differs from D2 in that claim 1 defines a "single functional bus" whereas D2 does not describe the bus.

The problems that the present invention is intended to solve can therefore be considered to be those of:

- providing an alternative, which is more straightforward and effective than the one in D2, for improving the transfer of control and feedback signals as well as simplifying the production of the system.

D1, D2 and D3 propose the use of one bus for the sensors and/or another bus for the power modules. None of these documents describes a "single

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Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

functional bus", as defined in claim 1 of the application, that solves the stated problem in such a straightforward and effective manner.

What is more, none of said documents describes the possibility of directly exchanging data between the sensors and the power modules via a single bus without any intervention from a computing and processing unit. This possibility is defined in claim 1 and in the description of the application (page 2, lines 13-19).

It follows that the subject matter of claim 1 is novel and inventive and also fulfils the requirements set forth in **PCT Article 33(1)**.

3. The application does not fulfil the requirements set forth in **PCT Article 6** because claims 1 and 7 are not clear.

The expression "in the close vicinity thereof" in claims 1 and 7 as originally filed does not have a well-established meaning in the context of the application and casts doubt on the meaning of the technical feature to which it refers. It follows that the subject matter of said claims has not been defined clearly (PCT Article 6). It would be possible to obviate this objection if the expression "in the close vicinity thereof" were replaced with "positioned at the end of said arm", as defined in claim 13.

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

Box I

In the new set of claims, the following features have been omitted from claims 1 and 7:

“said interface is integrated into said arm or is located in the close vicinity thereof”.

As a result of this omission, the claims define a “digital interface (14)” that could be integrated into the arm or even into the controller (C). Since the integration of said interface into the controller was not described in the description and the claims as originally filed, claims 1 and 7 do not fulfil the requirements set forth in **PCT Article 34 (2) (b)**.

The present opinion with regard to novelty and inventive step has been established as if the aforementioned omission did not exist.